R3G250-RNA9-02

EC centrifugal fan - RadiCal

backward curved, single inlet

R3G250-RNA9-02 ebmpapst Datasheet
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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R3G250-RNA9-02**	
Motor	**M3G074-CF**	
Nominal voltage	VDC	48
Nominal voltage range	VDC	36 .. 57
Type of data definition		fa
State		prelim.
Speed	min^{-1}	3300
Power input	W	280
Current draw	A	5.8
Min. ambient temperature	°C	-25
Max. ambient temperature	°C	+55

ml = max. load · me = max. efficiency · fa = running at free air · cs = customer specs · cu = customer unit
Subject to alterations

Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	Yes
Specific ratio*	1.01

* Specific ratio = 1 + p_{fs} / 100 000 Pa

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		58.5	42.3	46.3
Efficiency grade N		74.2	58	62
Power input P_e	kW	0.32		
Air flow q_v	m^3/h	1055		
Pressure increase p_{fs}	Pa	574		
Speed n	min^{-1}	3195		

Data established at point of optimum efficiency

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Technical features

Mass	2.12 kg
Size	250 mm
Surface of rotor	Coated in black
Material of impeller	PA plastic
Number of blades	7
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 44
Insulation class	"B"
Humidity class	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Any
Condensate discharge holes	None
Operation mode	S1
Motor bearing	Ball bearing
Technical features	- Tach output - Motor current limit - Soft start - Control input 0-10 VDC / PWM - Over-temperature protected electronics
EMC interference immunity	Acc. to EN 61000-6-2 (industrial environment)
EMC interference emission	Acc. to EN 55022 (Class B, household environment)
Motor protection	Reverse polarity and locked-rotor protection
Cable exit	Variable
Protection class	I (if protective earth is connected by customer at the connection point of the housing)
Product conforming to standard	EN 60950-1

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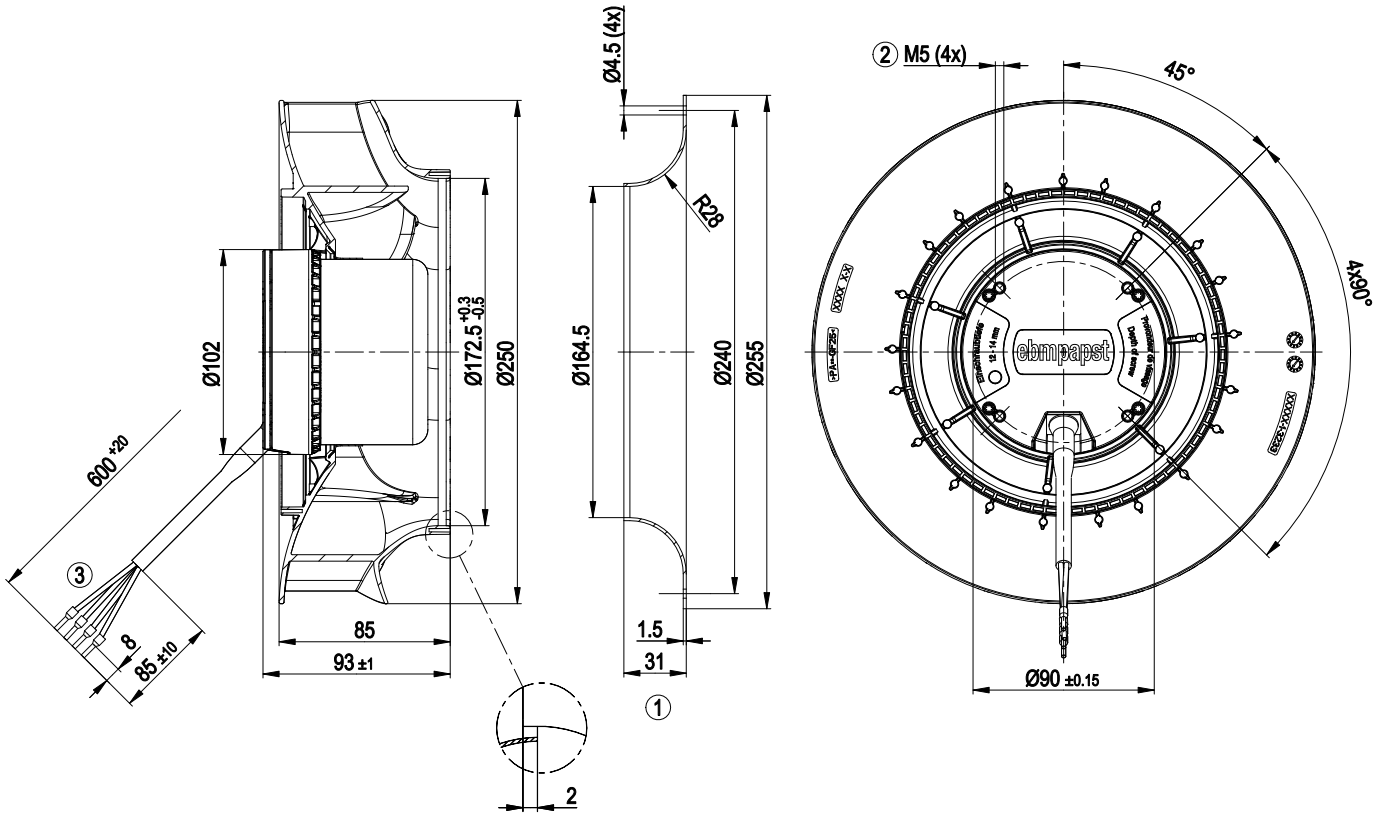
Product drawing



1	Accessory part: Inlet nozzle 96359-2-4013, not included in the standard scope of delivery
2	Connection line PVC AWG 16, 4x crimped core-end sleeves
3	Depth of screw max. 12 - 14 mm

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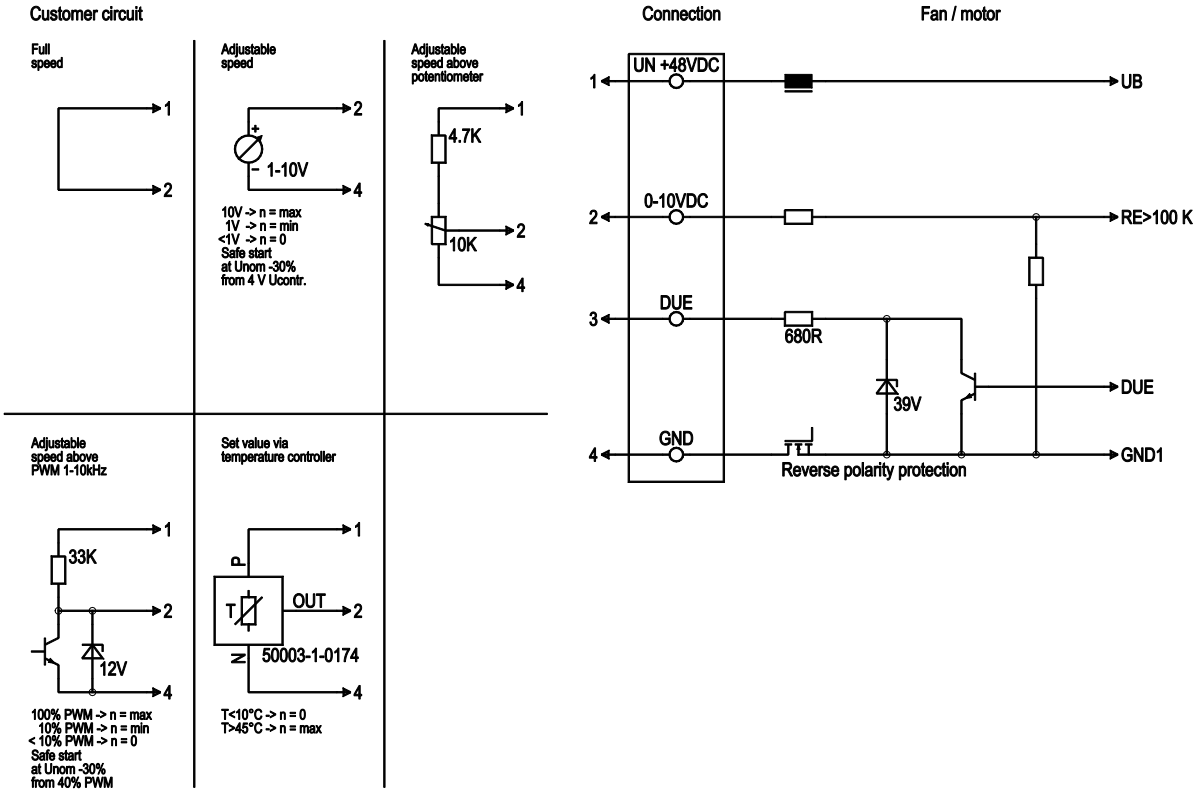
Connection screen



Line	No.	Signal	Colour	Function / assignment
	1	Un +48 VDC	red	Power supply 48 VDC, residual ripple 3.5 %
	2	0-10 VDC	yellow	Control input Re>100 K
	3	Tach	white	Speed monitoring output, 3 pulses per revolution, Isink max = 10 mA
	4	GND	blue	Reference mass

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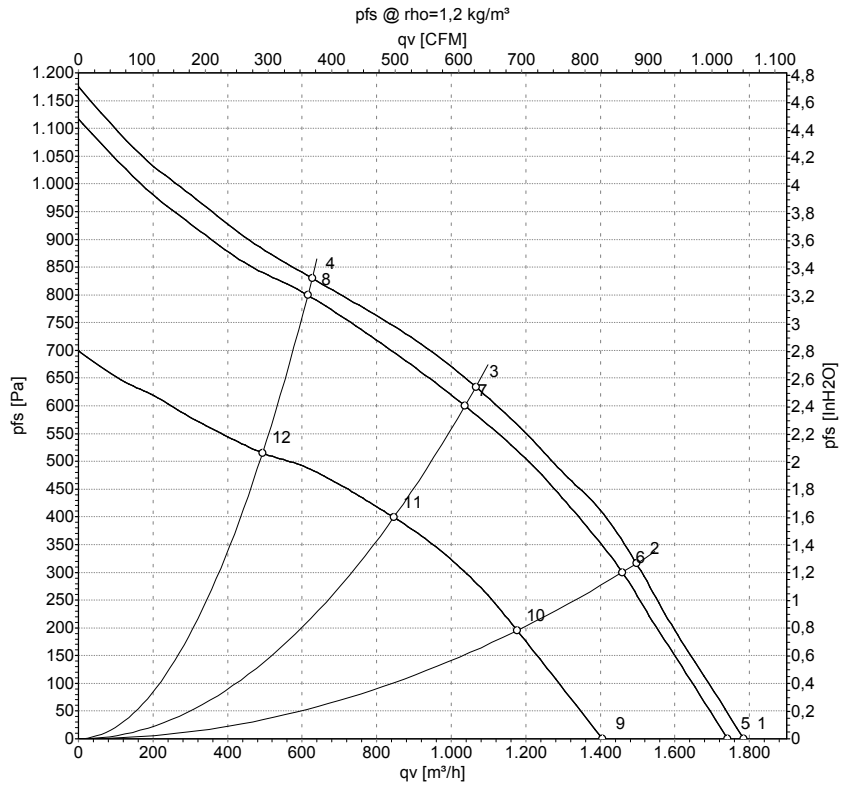
Charts: Air flow



Measurement: LU-139966
Measurement: LU-139964
Measurement: LU-139967

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	U	n	P_{ed}	I	LpA_{in}	LwA_{in}	qv	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	57	3395	305	5.35			1785	0
2	57	3320	330	5.79			1495	317
3	57	3270	345	6.07			1065	636
4	57	3345	320	5.62			625	830
5	48	3300	280	5.80	76	84	1740	0
6	48	3230	306	6.37	72	80	1460	300
7	48	3195	321	6.70	67	75	1035	600
8	48	3275	295	6.14	71	81	615	800
9	36	2675	152	4.21			1405	0
10	36	2615	169	4.71			1175	195
11	36	2600	173	4.80			845	399
12	36	2640	159	4.41			495	514

U = Supply voltage · n = Speed · P_{ed} = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side · qv = Air flow · p_{fs} = Pressure increase